THE IMPACT OF INTANGIBLE ASSETS AND FAIR VALUE MEASUREMENT ON EARNINGS MANAGEMENT: EMPIRICAL EVIDENCE FROM JORDANIAN BANKING SECTOR

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ABSTRACT

Purpose: The main purpose of this research is to investigate the impact of intangible assets and fair value measurement at levels one and two on earnings management.

Design/methodology/approach: Content analysis of the financial reports of a sample of 13 commercial banks listed on Amman stock exchange with a 91 observation over seven years from 2012 till 2018 was used. The study used descriptive statistics and multiple regression to test the hypotheses and analyze the data.

Findings: The results of the study revealed that there is an insignificant impact of the independent variables including intangible assets and fair value measurement at levels one and two on earning management.

Research limitations/implications: The study concentrated on the financial sector due to the specific regulations and the specific characteristics related to it. However, the sample size is the same as the population size, which is 13 banks, therefore the size appears to be small.

Practical implications: Based on the research results and considering the required continuing development in accounting standards, the researchers would recommend the commercial banking industry to encourage the application of all requirements of IFRS13: Fair value Measurement and IAS38 and Intangible Assets, 2004. Moreover, to improve the entity's financial reporting process and enhance the quality of earnings, there is a need for the continuous improvement in corporate governance mechanisms and internal controls.

Originality/value: Up to the knowledge of the researchers, this is a pioneer study which investigates the impact of intangible assets and fair value measurement at levels one and two on earning management.

Keywords: Earnings Management, Intangible Assets, Fair Value Measurement, Jordanian Commercial Banks.

INTRODUCTION

Earnings management has always been one of the most important ethical dilemmas highlighted in accounting literature for many years (Ismael & Kamel, 2021; Zainuldin & Lui, 2018: Al-Thuneibat, 2011). It occurs when managers deliberately attempt to control earnings figures with the intention to either mislead users of financial reports or influence their decisions, (Lee & Swenson, 2011; Healy & Wehlen 1999; Schipper, 1989). Fictitious earnings figures yield lower earnings quality and thereby, may lead to an incorrect information about an entity's performance and therefore incorrect decisions (Lo, 2008).

As a measure of an entity's performance, earnings figures are perceived as of high importance to many financial statements' users including shareholders, lenders, managers, financial analysts, and customers. Moreover, performing a correct assessment of earnings depends heavily on the quality of accounting information that constitutes this figure (Rankin,

et al., 2012). To influence financial statements users' decisions, managers may perform several techniques and mechanisms that generate desirable earnings figures.

Because of the nature of accrual accounting, managers are given a significant amount of discretion in determining a firm's reported earnings. Furthermore, the use of fair value has significantly increased recently as a measurement technique by many companies. Furthermore, fair value measures are increasingly relying upon managerial assumptions and estimates (Alzoubi, 2016). It is expected that the flexibility in fair value measurement will provide managers with more opportunities to manage their earnings. Therefore, more flexibility can lead to adverse effects on the trustworthiness of financial statements (Fargher & Zhang, 2014; Al-Khabash, 2009).

Likewise, because of the unique nature of intangible assets and the lack of their physical substance, measurement of those assets has been quite challenging and a subject of much debate (Rankin, et al., 2012). Whether intangible assets are measured at their cost or their fair value, they can be employed by managers opportunistically to manage their earnings. For example, Russell (2017) concluded that managers tend to capitalize intangible assets at their cost to maintain earnings persistence. Verification of intangible assets, in many cases, needs complicated procedures and tougher efforts to do because of the substantial discretion involved (Lev, 2001; Lev & Zambon, 2003; Lev & Daum, 2004; Ramanna & Watts, 2012), consequently the accounting for intangible assets, particularly, goodwill accord important unverifiable choice to the clients' managers and thus managers can influence the stated numbers using this choice (Ramanna & Watts, 2012).

Intangible assets and fair value measurement may create an opportunity for managers to commit earnings management practices. With all of these facts and information in mind, it may be argued that both intangible assets and fair value measurement play a crucial role in effecting the level at which managers manage their earnings. The ongoing discussion about intangible assets and their valuation process and fair value measurement directed many researchers' efforts in investigating many issues related to them (Alfredson, 2008). Several previous studies have provided multiple evidence on earnings management practices. Therefore, the core subject of this research is to investigate the impact of both intangible assets and fair valued assets at level one and level two on earnings management in the commercial banking industry in Jordan. The findings of this study are expected to contribute to the discussion concerning the appropriate way of improving the entity's financial reporting process and enhancing the quality of earnings.

Theoretical Framework and Hypotheses Development

Earnings management

Earnings management is defined as a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (Alkhabash & Al-Thuneibat, 2009; Schipper, 1989). However, Scott (2015) states that earnings management is merely a choice among accounting policies and methods to help managers impact income so that they can achieve specific profit goals. It is also defined as the creative use of the accounting principles to generate the financial statements in a way that would reflect a distinguished view and image of the firm (Kitiwong, 2014).

Many researchers have focused their attention on addressing the motivations behind earnings management practices. For example, Healy (1985), provided some evidence that managers tend to magnify their welfare by maximizing the compensation and bounces tied directly to the earnings by using accrual policies. Additionally, Watts & Zimmerman (1986) stated that certain factors provide managers with more incentives to manage their earnings,

including debt covenant constraints, compensation plan provisions, political costs, the need to issue equity capital, and insider trading.

In a similar vein, Subramanyam (2014) has reported that manager's motivations to manage earnings might include increasing their compensation, preventing any violation of lender's restrictions stated in debt covenants, impacting stock prices, or bypassing political costs and governmental agencies scrutiny. Similarly, Holthausen, et al. (1995) argued that managers may deliberately attempt to reduce their earnings numbers when their compensations are maximized (Holthausen et al., 1995).

There are several techniques that managers may employ to attain their intended earnings figures. Accounting practices that could be used to manage earnings include; the big-bath, creative accounting, the cookie-jar reserves, the misconducting of accounting materiality, early recognition of revenues (Munter, 1999; Kokoszka, 2003; Jordan & Clark, 2004). Managers may take advantage of their discretions to smooth income among the accounting periods based on the forecasted earnings expectation regarding the next period's earnings (DeFond & Park, 1997; Adi & Godfrey's, 1999).

Earnings management may be carried out either through real activities or through changing the accounting policies (Darmawan, et al., 2019). In other words, managers may manipulate earnings through distorting real activities, including the alteration of the timing or the scale of real operating activities, such as sales, production, or investments (Kim & Sohn 2013), or by granting price discounts to temporarily boost sales, making excess production in order to reduce the cost of sale, or reducing discretionary expenditures to promote reported margins, (Pompili & Tutino, 2019; Jie et al., 2017; Magnan et al., 2015; Roychowdhury, 2006).

Two main components make up accruals, namely non-discretionary accruals, and discretionary accruals. The non-discretionary accruals are accruals that are based upon the normal economic conditions surrounding a firm (Xiong, 2006; Islam et al., 2011). The discretionary accruals are accruals resulting from the manager's choice of a policy or method. Therefore, discretionary accruals may be driven by the manager's opportunistic activities.

According to the agency theory, managers tend to deploy a strategy that maximizes their utility. They could overstate the firm's performance to achieve their targets or protect their jobs. Many researchers argued that agency conflict problems could detract the informativeness of managerial judgments in financial reporting. In other words, financial reporting would be less informative of future economic performance through more flexibility in managerial judgment (Al-Thuneibat et al., 2011; Demski, 1998; Tucker & Zarowin, 2006).

However, previous studies have encountered many factors that affect earnings management levels and motivated managers to commit such practices. For the purpose of this study, both fair value measurement and intangible assets are selected to examine their impact on earnings management.

Fair value measurement

According to (IFRS13: Fair value Measurement), fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. This definition represents an exit price concept which is the amount expected to be received upon the disposal of the assets rather than the amount expected to be paid to acquire an asset (entry price concept) as such the replacement cost (Rankin, et al., 2012).

In order to increase consistency and comparability in fair value measurements and related disclosures, fair value frameworks established a three-level hierarchy that categorizes inputs used as a valuation technique. This hierarchy reflects the degree of judgment involved

in estimating fair values (Enahoro & Jayeoba, 2013). Under the IASB (2011) levels are categorized as follows:

1. Level one: considers the unadjusted quoted prices traded in an active market for identical assets or liabilities being measured (observable inputs).
2. Level two: considers the quoted prices for similar assets in an active market, or quoted prices for identical assets in an inactive market or any other observable input other than those that constitute level 1 inputs.
3. Level three: considers unobservable inputs for assets and liabilities, reflecting management positions about the assumptions used by a market participant in pricing an asset or a liability.

The increased usage of fair values has marked a notable departure from the thoroughly criticized doctrine of holding entity's books at historical cost (Palea, 2014). Therefore, fair value accounting has been of a high interest for many researchers. Moreover, due to the increased usage of fair value estimates, more attention on the reliability of those measures has built up, critics of such measures have started to question their reliability, and some have provided evidence that managers may commit manipulation through the valuation and measurement techniques of fair value (Barth 1994; Barth, 1999). Fair value measurements are also criticized for being more subjective and for being based on estimations (Diana, 2009). Laux and Leuz (2009) added that fair value measurements are based on the fact that market values can be distorted as a result of the various inefficiencies of markets or irrational investors. Additionally, Ijeoma (2014) pointed out that there is an increasing risk of giving management more flexibility to deal with potential problems arising from fair value measurement, he added that such flexibility would open the door for manipulation, especially during a crisis.

Previous literature demonstrated that, in practice, self-interests were found to motivate many earnings manipulation activities (Lhaopadchan, 2010). Therefore, bearing all this information in mind, it can be demonstrated that fair value measurement can be seen as an attractive opportunity for managers to use in an attempt to manage earnings.

Occasionally, fair value at level one is perceived to be more verifiable and less subject to information asymmetries among mangers and external investors about the reliability of fair value than levels two and three (Sellhorn & Stier, 2019; Song, et al., 2010). However, Magnan et al. (2015) have provided evidence of the informativeness of adopting fair value measurement through level 2 inputs; they farther added that managers might behave opportunistically while measuring level 3 inputs.

Sodan (2015) suggested that the higher exposure to fair value accounting in financial reporting, the lower the level of earnings quality in companies and banks in Eastern European countries. He assumed that Level 2 and Level 3 inputs are more subjective, more likely to embrace measurement errors, and may provide managers with higher opportunity to manage earnings in contrast to the opportunity offered in case of Level 1 inputs. However, Ayres, et al. (2017) investigated the effects of fair value accounting on the analyst's behavior in the USA. They found that there is a significant positive association between the analyst forecasts accuracy and Level 1 and Level 2 fair value measurements. Whereas, no association was found for Level 3 measurement; these findings suggest that earnings quality may be enhanced by the use of fair value measurements at both Levels One and two.

However, Pompili and Tutino (2019), found that the impact of fair value accounting on earnings quality is not affected by the level of fair value used for evaluation, earnings quality is influenced by fair value in the same degree on all levels. In other words, fair valued assets at level three impact earnings quality in the same manner as for the other observable levels of the hierarchy.

Additionally, Xu (2019) has concluded that banks that recognized larger proportions of fair value assets and liabilities based on both levels two and level 3 fair value hierarchy

inputs have lower levels of discretionary loan loss provisions. They further explained that firms commit such actions with the incentive to beat the market benchmarks. Furthermore, results also have shown that the use of level 1 inputs to measure assets and liabilities has no relationship with discretionary loan loss provisions. Siekkinen (2016) argued that even though fair value measurement may constitute an attractive gap for managers to manage opportunistically in a strong investor protection environment, the value relevance of fair values is preserved.

Finally, Reid (2017) suggested that the effect of fair value measurement on financial reporting quality is an erroneous assumption as the perceived effect will vary depending on the existing information environment of the firm. However, he concluded that fair value accounting provides useful and relevant information to financial statements' users and assists them in decision making. Based on these arguments about the effect of fair value on earnings management, this research concentrates on testing the following hypotheses:

> H_1: *There is no statistically significant impact of fair valued assets at level 1 on earnings management in the Jordanian commercial banking industry.*

> H_2: *There is no statistically significant impact of fair valued assets at level 2 on earnings management in the Jordanian commercial banking industry.*

However, because the measurement of level 3 of fair value depends on unobservable values in the market, the banking sector companies in Jordan, in practice ignored it due to difficulties of application. Therefore, because We didn't find any information related to this level in the financial reports of the commercial banks in Jordan, it is ignored from our study.

Intangible assets

According to IASB, intangible assets were defined in (IAS38: Intangible Assets, 2004) as "*an identifiable non-monetary assets without physical substance*". Intangible assets may include computer software, trademarks, patents, films, licenses, copyrights and import quotas. IAS 38 definition of intangible assets makes it clear that intangibles should be identifiable, the term identifiable is used mainly to distinguish intangible assets from goodwill (which fall under the scope of IFRS 3 Business combination). Intangible assets are perceived to be identifiable if they either have arisen from a contractual or legal right or if they could be separated from the entity and transferred, licensed, rented, or elsewhere. Because of the fact that goodwill usually can't be separated from the whole entity and thereby by definition is not identifiable, it falls outside the scope of IAS 38 (Melville, 2008).

Much more complexity will be encountered in the case of internally generated intangible assets, such as research and development, whereby, a basic test of recognition should be passed before placing it in the balance sheet (Salamudin et al., 2010).

Researchers presented evidence reinforcing the facts that intangible assets contribute to the entity's economic performance, are value drivers of an entity's business success, contribute to creating economic wealth, and improve customer acquisition and retention. (Grimaldi & Cricelli, 2009). Moreover, many research studies have viewed intangible assets as one of the most challenging assets to evaluate and measure objectively. In other words, it is very difficult to numerically quantify them through the initial recognition or by any subsequent measurement and valuation method including; the cost model, revaluation model and fair value measurement (Grimaldi & Cricelli, 2009; Lai, 2019). Many previous empirical studies have demonstrated that the subjectivity inherent in the valuation and measurement of intangible assets, and the difficulties associated in managing them, may compose an attractive opportunity for managers to employ as a tool to deliberately manipulate earnings in order to achieve their goals.

Previous research (Baber, 1991; Nelson et al., 2003; Jahmani et al., 2010; Lhaopadchan, 2010; Hu et al., 2015) revealed that that higher agency problems in the form of earnings management can be evident in firms that use revaluation model more for valuing their non-current assets, and managers may commit earnings management actions through assets impairment and amortization. For example, managers seem to be motivated to manage earnings through the impairment of goodwill. Furthermore, Messier et al. (2008) suggest that the inherent risk associated with intangible assets and goodwill raises severe risk worries. In other words, the accounting guidelines are complex and need high degree of judgment, which creates opportunities to manipulations in earnings figures. Based on these research arguments, the following hypothesis will be tested:

H_3: there is no statistically significant impact of intangible assets presented on the balance sheet on earnings management in the Jordanian commercial banking industry.

RESEARCH METHODOLOGY

The study is conducted through applying content analysis using a total population sampling technique of thirteen commercial banks listed on Amman Stock Exchange under the umbrella of the Jordanian financial sector as of December 31. 2018, over the period from 2012 till 2018, and a sum of (91) bank-year observations. Each published financial report was used for the study purpose. An entire population selected for the purpose of this study due to the relatively small size of the population and to eliminate any potential bias occurring through sampling techniques.

The selection of 7 years period, 2012 to 2018, was based on several reasons. Firstly, the application of IFRS 13 has been mandatory, starting on January 1, 2013, considering the retrospective application conducted by all 13 commercial banks employed under the scope of the study. Secondly, a period of 7 years from 2012 till 2018 allows testing the largest number of observations that could be obtained, thereby helped in getting more reliable results.

Following Fargher & Zhang (2014), the current study focused on the banking industry for many reasons. Firstly, the estimation regarding fair value represents a significant issue for banks' regulatory capital because impairment losses can have substantial impacts on computing capital ratios. Secondly, the fair valued assets and measurements are more homogenous in the banking industry than firms in other industries since banks operate in a high regulatory industry. Finally, the majority of Jordanian banks include both intangible assets and financial assets measured at fair value in their assets' composition.

RESULT

The study highlights that the Journal as an accounting web application effectively and efficiently supports to business activities of PT Afham Karya Nusantara. The system of Jurnal helps users to create complete and automatic financial reports. Starting with the income statement, balance sheet, cash flows, purchases and sales and more. It is also very easy to use this application. Namely by registering and activating data.

In detail the effectiveness of Journal application is indicated by the facts that this application has fulfilled the criteria of system quality; quality of information; quality of service; utilization; user satisfaction and organizational benefits.

Conceptual Framework and Models

Three models were applied for this study to explain the relationships under consideration:

Model one: illustrates earnings management as a dependent variable and intangible assets and fair valued assets at level one as independent variables.

Model two: illustrates earnings management as a dependent variable and intangible assets and fair valued assets at level two as independent variables.

Model three: illustrates earnings management as a dependent variable and Intangible assets, fair valued assets at both levels one and two as independent variables.

Earnings management is the dependent variable, whereas intangible assets and fair valued assets at both levels one and two are the independent variables. The study uses many control variables including; leverage, bank size, book-to-market ratio, return on assets, audit firm type and loss.

Equation (1):

$$EM_{it} = \beta 0 + \beta 1\ FVL1/TA_{it} + \beta 2\ IN/TA_{it} + \beta 3\ LEV_{it} + \beta 4\ SIZE_{it} + \beta 5\ BM_{it} + \beta 6\ ROA_{it} + e_{it}$$

Equation (2):

$$EM_{it} = \beta 0 + \beta 1\ FVL2/TA_{it} + \beta 2\ IN/TA_{it} + \beta 3\ LEV_{it} + \beta 4\ SIZE_{it} + \beta 5\ BM_{it} + \beta 6\ ROA_{it} + e_{it}$$

Equation (3):

$$EM_{it} = \beta 0 + \beta 1\ FVL1/TA_{it} + \beta 2\ FVL2/TA_{it} + \beta 3\ IN/TA_{it} + \beta 4\ LEV_{it} + \beta 5\ SIZE_{it} + \beta 6\ BM_{it} + \beta 7\ ROA_{it} + e_{it}$$

Variables Measurements

Earnings management (Dependent variable)

For the purpose of this study, discretionary accruals were used as a proxy for earnings management by applying the modified Jones model (Dechow& Skinner, 2000; Jones, 1991; Dechow et al., 1995). This model is selected based on its popularity and wide acceptance among many prior researchers, who stated that the Jones model (Jones, 1991) and the modified version of the Jones model provide the most powerful tests of earnings management (Peasnell et al., 2000; Dechow et al., 1995). Further researchers have found that the modified Jones model has consistently outperformed all other accrual models.

The discretionary accruals (EM) are obtained by measuring the non-discretionary accruals (NDC) as a portion of the total accruals (TACC). Following prior research, the EM was obtained through the following four equations.

Equation (1)
Total accruals through the balance sheet approach**:**
$TACC_{it} = \Delta CA_{it} - \Delta Cash_{it} - \Delta CL_{it} + \Delta DCL_{it} - DEP_{it}$
Where:
$TACC_{it}$ = Total Accruals of firm i in year t.
ΔCA_{it} = Change in current asset of firm i in year t.
$\Delta Cash_{it}$ = Change in cash and cash equivalent of firm i in year t.
ΔCL_{it} = Change in current liabilities of firm i in year t.
ΔDCL_{it} = Change in short term debt included in current liability of firm i in year t.
DEP_{it} = Depreciation and amortization of firm i in year t.
After calculating the total accruals, the parameters $\beta 1$, $\beta 2$, and $\beta 3$ used in estimating discretionary accruals will be calculated through the following formula:

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Equation (2)

$TACCit /TAi, t{-}1 = \beta1(1/TAi, t{-}1) + \beta2(\Delta REVi,t /TAi, t{-}1) + \beta3(PPEi,t /TAi, t{-}1) + ei,t$

Where:

TACCi, =   Total accruals for firm i in year t,

TAi, $t{-}1$ =   Total assets for firm i in year t-1,

Δ REVi,t =   A change in revenues for firm i in year t,

PPEi, t =   Gross plant, property, and equipment for firm i in year t, and

$\beta1$, $\beta2$ and $\beta3$ = Coefficients for firm i.

The parameters $\beta1$, $\beta2$, and $\beta3$, were estimated through linear regression using ordinary least square regression, scaling by lagged total assets ($At{-}1$) in order to avoid problems of heteroscedasticity (Gil *et al.,* 2016). The non-discretionary accruals will be determined using the following formula:

Equation (3)

$NDC\ it/ TA\ it\text{-}1 = \hat\beta1(1/TAi, t{-}1) + \hat\beta2(\Delta REVi,t - \Delta REC/TAi, t{-}1) + \hat\beta3(PPEi,t /TAi, t{-}1)$

Where:

NDCi, =   Nondiscretionary accruals for firm i in year t,

TAi, $t{-}1$ =   Total assets for firm i in year t-1,

ΔREVi,t =   A change in revenues for firm i between years t and t-1,

ΔRECi,t =   A change in receivables for firm i between years t and t-1,

PPEi, t =   Gross plant, property, and equipment for firm i in year t, and

$\hat\beta1\ \hat\beta2$ and $\hat\beta3$ = Estimated coefficients for firm i.

Finally, in order to obtain the discretionary accruals (EM), the non-discretionary will be estimated as follows:

Equation (4)

$DA\ i,t = (TACC\ i,t/ TA\ i,t\text{-}1) - NDCi,t$

Discretionary accruals may have a positive value that represents an income increasing accrual or a negative value implying an income decreasing accrual (Green, S., & Salkind, 2016; Li, et al*.,* 2019).

Intangible assets (Independent variable)

Intangibles were introduced in this study as an independent variable. A straightforward measure will be deployed for valuing them using the proportion of intangibles out of the total assets (Gras-Gil, 2016; Sitanggang, et al., 2019; Karaki, 2019).

Fair value measurement (Independent variable)

Both fair valued assets at level one and level two of the fair value hierarchy divided by total assets were selected as independent variables to measure their effects on earnings management. The third level inputs were ignored due to the lack of data availability at which few banks have used level three inputs to measure fair value.

Measurement of Control variables

Leverage (LEV)

Based on previous research studies, it was found that there is a strong negative relationship between earnings management and leverage. Zamri, et al., (2013) found that levered firms have lower levels of real earnings management. Becker, et al., (1998) stated that companies using high levels of debt are exposed to increasing institutional monitoring levels, which would decrease their ability to manage earnings. Accordingly, leverage will be used as a control variable. This variable will be measured as the total debt divided by the total assets.

Firm size

Many research studies have investigated the impact of firm's size on earnings management. There are two opposing views, for example a study conducted by Barton & Simko (2002) showed that large-size firms face greater pressure to achieve or beat analysts' forecasts. In contrast, other research studies (Warfield, 1995; Beasley, et al., 2000) found that managers of large-sized firms who maintain an effective internal control system have lower opportunity to manage their earnings. Thereby size will be used as a control variable and will be measured using the natural log of total assets.

Book to market ratio (BM)

Book to market ratio was used as a control variable, which controls the future growth. High growth firms have stronger incentives to manage earnings in order to meet their targets, as their shares' prices are more sensitive to missing analysts' forecasts (McVay, et al., 2006).

Return on assets (ROA)

As Dechow, et al. (1995) suggested that firm's profitability is correlated with earnings management, thereby when testing earnings management, it is important to control for the ROA. Based on this information, ROA will be used as a control variable and will be calculated by dividing the net income by the average of total assets.

Table 1 provides a summarization of the measurements' techniques used in this study.

Table 1 VARIABLES' MEASUREMENT	
Variables	**Measurement**
EM	Discretionary accruals using the modified jones model (1995).
IN	Intangible assets reported on the balance sheet scaled by total assets = Intangible Assets / Total Assets
FVA1	Fair valued assets measured at level 1 of fair value hierarchy. = Fair Valued Assets Measured at lev.1 / Total Assets
FVA2	Fair valued assets measured at level 2 of fair value hierarchy. = Fair Valued Assets Measured at lev.2 / Total Assets
LEV	The ratio of total debt to total assets. = Total Debt / Total Assets
SIZE	Natural Log of total assets = Ln (Total Assets)
BM	Book to market ratio, estimated as the book value of equity over the market value of equity. = Book Value of Equity / Market Value of Equity
ROA	Return on assets, calculated by dividing the net income by the average of total assets. = Net Income / Avg. Total Assets

Data Analysis and Hypotheses Testing

Descriptive statistics

Table 2 presents the outcomes of the descriptive statistics for the study variables regarding 91 firm-year observations collected based on a review of the annual reports of thirteen commercial banks listed on Amman Stock Exchange for seven years (2012 -2018). The following can be designated based on the results observed in Table 2:

Table 2 DESCRIPTIVE STATISTICS OF VARIABLES					
Variables	N	Minimum	Maximum	Mean	Std. Deviation
Earnings management	91	0.0120	0.2424	0.0662	0.0586
Fair value (level 1)	91	0.0001	0.0357	0.0142	0.0108
Fair value (level 2)	91	0.0000	0.0080	0.0031	0.0028
Intangible assets	91	0.0003	0.0075	0.0022	0.0016
Leverage	91	0.7804	0.9250	0.8584	0.0269
Book to market	91	0.4097	2.2114	1.1724	0.3640
Bank size	91	19.9882	24.2731	21.5990	0.9646
Return on assets	91	0.0054	0.0212	0.0129	0.0043

Earnings Management (EM)

The value of the earnings management (EM) is evaluated according to the modified Jones model (1995). The magnitude of the absolute value of EM in the sample has a mean of 0.0662 with a standard deviation of 0.0586 and ranges from 0.012 to 0.2424. which implies the presence of earnings management in the Jordanian commercial banking industry but in a minor amount.

The independent variables (fair value level 1, fair value level 2, intangibles)

The fair valued assets at level one which is measured by dividing the assets valued at fair value level one over the total assets have a mean value of (0.0142) or 1.42 percent, which is a low value that could be attributed to the low volume and amount of assets measured through fair value in contrast to the total assets in banks' assets composition.

Similarly, assets measured at fair value level two also have a lower mean value of 0.0031, this is also because assets that were measured through fair value level two compared to the total assets possessed by the majority of banks listed on Amman stock exchange represent a minor amount.

The minimum values for both fair valued assets at levels one and two are zero, which indicates that some banks do not have assets measured at fair value level one or fair value level two. Additionally, the standard deviation values for these variables are (0.0108) and (0.0028), respectively, both are less than the mean, which confirms the harmonization in the fair values among the Jordanian banks listed on ASE (Saleh, 2005).

For the third independent variable, the intangible assets, results of descriptive statistics revealed a mean value of (0.0022), even though this is a low value but it may be considered high in comparison to other industries. The commercial banking industry depends on the research and development, products specifications, and other types that constitute intangible assets. However, intangibles have a minimal observation close to zero amount, implying the nonexistence of such assets in some banks, and a maximum observation of a (0.0075) or 0.75 percent.

The control variables (Leverage, BM, Size, ROA, Auditor type, Loss)

The first control variable is the leverage; according to the descriptive analysis performed, results show a mean value of (0.8584) or 85.84%, which implies that around 86% of the banks' assets are financed through debts. The maximum value of leverage is (0.9250), and the minimum value is (0.7804).

The book to market ratio (BM) which is a tool for evaluating an entity's book value relative to its market value that tells whether an entity is overvalued or undervalued, as per the study sample, this ratio has a mean value of 1.17%, which implies that the majority of the Jordanian banks' stocks were traded for less than the book value of their assets.

Furthermore, the average banks' size, which is measured by the natural log of the total assets, is 21.599, with a minimum value of 19.9882 and a maximum value of 24.2731, which designates that the banks have comparable sizes in terms of their total assets.

Bank's profitability measured using the ROA reveals that, banks (average value = 1.29%) did not face any loss situation. The minimum value of ROA does not point out any loss at which it varies from 0.54% to 2.12%.

Multicollinearity and autocorrelation

The multicollinearity test examines the correlation between the independent variables; the lower the value is the best the model fit. The high multicollinearity value indicates a partial effect, which is a problematic issue in the model. Researchers use the variance inflation factor (VIF) and Tolerance tests for this purpose, the accepted value of the VIF is less than 10, and the accepted cut-off point for the tolerance is less than 1. For this study, as observed, the VIF values range between (1.997) and (1.137), thereby none the VIF's exceeded 10, the threshold at which multicollinearity can be a problem (Gujarati, et al. 2012). Tolerance values range between (0.88) and (0.501), all of which are less than 1. Thus, it can be confirmed that none of the correlations between the independent variables were significantly highly correlated to impose multicollinearity threats (Hair, 2009). Table 3 shows the results of both VIF and Tolerance tests revealed from this study.

Table 3 MULTICOLLINEARITY STATISTICS		
Variables	Tolerance	VIF
FV (level 1)	0.736	1.358
FV (level 2)	0.818	1.222
Intangibles	0.880	1.137
Leverage	0.575	1.738
BM ratio	0.667	1.498
Banks Size	0.877	1.140
ROA	0.501	1.997

Autocorrelation Test

The autocorrelation measures the correlations between the standard errors of the regression model, the D-W test was used for this purpose. In reference to the regression analysis tables, all values are within the accepted range of D-W which is between (1.5 to 2.5).

Normality Test

The main purpose of the normality test is to confirm the ability to generalize the obtained results from the research sample to the entire population. Researchers evaluate the normality using the statistical results of the Skewness and the Kurtosis tests. Data deemed to be normal if the Skewness test results are within ±2, and the Kurtosis test results are within ±7 (George, 2011).

Variables	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
EM	91	1.461	0.253	1.670	0.500
FV1/TA	91	0.375	0.253	-1.075	0.500
FV2/TA	91	0.627	0.253	-1.134	0.500
IN/TA	91	1.247	0.253	1.549	0.500
Leverage	91	-0.061	0.253	-0.427	0.500
BM ratio	91	-0.012	0.253	0.243	0.500
Size	91	1.480	0.253	2.144	0.500
ROA	91	-0.103	0.253	-0.788	0.500

Table 4
NORMALITY TEST

Outliers in the data distribution were dealt with using the Winsorization method. Winsorization is a technique to minimize the impact of the outliers on the data by either assigning outliers a lower weight or changing their value to be close to other values in the set. As per table 4, normality test results suggest that all variables are normally distributed since all skewness and kurtosis values are within the acceptable range.

Regression analysis and hypotheses testing

Table 5 shows that the overall regression model (1) is insignificant. The overall correlation coefficient is (0.364) or 36.4%. The model R square has a value of (0.132). The adjusted R2 for this model represents a low amount of 7%, meaning that the independent variables when taken as a group explain only 7% of the variance in the dependent variable earnings management. In other words, the amount of variance of earnings management that both intangibles and fair value level one account for approximately 7%. Furthermore, the model overall P-value also confirms that the first regression model is insignificant since its amount is greater than the selected level of significant ($\alpha = 5\%$).

Table 5
REGRESSION RESULTS - MODEL ONE

Independent variables	Dependent variable	T-Test	Sig.	β (beta)
Fair value level one	Earning Management	-0.181	0.857	-0.021
Intangible assets		0.066	0.948	0.007
Bank leverage		1.047	0.298	0.140
Book to market ratio		2.001	0.049	0.243
Size of bank		-1.890	0.062	-0.197
Return on assets		-0.142	0.887	-0.020
R	0.364			
R Square - R^2	0.132			
Adjusted R Square	0.070			
Durbin Watson	1.965			
F-Value	2.132			
P-Value	0.058			

Testing null hypothesis (1):

H_1: There is no statistically significant impact of fair valued assets at level 1 on earnings management.

As shown in table 5 the P-values for each individual variable confirms the insignificance impact since all, except for BM ratio, have values greater than the level of significance ($\alpha = 5\%$). As for the values of the beta coefficient (β) for each variable, it appears that the reaction of the dependent variable (earnings management) to the changes in the standard deviation of any independent variable is very slight. Thus, model one is found to be insignificant, and thereby the first null hypothesis is accepted providing evidence that both fair valued assets at level one and intangibles have an insignificant impact on the level of earnings management in commercial banks listed on Amman stock exchange. This result may provide evidence about the effectiveness of the measurement techniques and thereby providing evidence on the truthiness of the disclosed numbers for both the intangible assets and fair valued assets at level one (Wall & Martin, 2004). These results seem to be aligned with Ayres's (2017) results that have suggested that fair value measurement techniques do not affect the quality of earnings which implies the presence of low levels of earnings management. However, the results are inconsistent with other studies (Sodan, 2015; Sodan, 2019; Xu, 2019) who provided evidence about the impact of these variables on earnings management.

The findings may be attributed to various reasons. Firstly, the commercial banking industry's effective application of corporate governance mechanisms, the sound and solid controls, advanced internal controls, and transparent financial reporting system. All of which have been proved to have an inverse effect on earnings. Secondly, this result may also be justified based on the fact that level one inputs of the fair value hierarchy are the least subjective source of inputs compared to the other levels since this level depends highly on observable data of identical assets. In addition, most of the assets valued at fair value in the banking industry consist of marketable securities with a lower chance of being manipulated in terms of their lower subjectivity than the other types of assets such as long-lived assets and property investments.

Similar to model one, Table 6 shows that the overall regression for model (2) is insignificant. The overall correlation coefficient resulted in an identical amount as for model (1) by an amount of (0.364) or 36.4% which represents a low value of correlation. The model R square has a value of (0.132). The adjusted R2 represents a low amount of 7%, meaning that the independent variables when taken as a group justify only 7% of the variance of the dependent variable earnings management. In other words, the amount of variance of earnings management that both intangibles and fair value level two account for is approximately 7%. Furthermore, the model overall P-value also confirms that the second model is insignificant since its amount is greater than the selected level of significant ($\alpha = 5\%$).

Table 6 REGRESSION RESULTS - MODEL TWO				
Independent variables	**Dependent variable**	**T-Test**	**Sig.**	**β (beta)**
Fair value level two	Earning Management	-0.204	0.839	-0.023
Intangible assets		0.054	0.957	0.006
Bank leverage		1.104	0.273	0.144
Book to market ratio		2.007	0.049	0.249
Size of bank		-1.779	0.079	-0.192
Return on assets ratio		-0.172	0.863	-0.024
R	0.364			
R Square - R^2	0.132			
Adjusted R Square	0.070			
Durbin Watson	1.950			
F-Value	2.133			

P-Value	0.058

These results also are consistent with Reid (2017) who concluded that the mandatory disclosure requirements related to fair value measurement increases financial reporting quality and provides useful information to investors (Herawati, 2010).

Testing null hypothesis (2):

H₂: There is no statistically significant impact of fair valued assets at level 2 on earnings management.

As shown in table 6, all P-values for all variables, except for the book to market ratio, are greater than the level of significance ($\alpha = 5\%$). Thus, model two is found insignificant. Thereby, the second null hypothesis is also accepted providing evidence that there is no significant impact of intangible assets and fair valued assets at level two on the level of earnings management in commercial banks listed on Amman stock exchange, which suggests the effectiveness of the measurement techniques and may provide evidence that both of the intangible assets and fair valued assets at level two are presented fairly with no deliberate misstatements. The results are also congruent with Ayres (2017) who have suggested that the fair value measurement is an effective technique for providing fair presentation of accounting numbers, however, this result is inconsistent with the evidence provided by other previous studies (Sodan, 2015; Sodan, 2019; Xu, 2019).

Table 7 also shows that the overall regression for model (3) is insignificant. This model included all independent variables in the current study. The resulted overall correlation coefficient is (0.364) or 36.4% which represents a low value of correlation. The model R2 has a value of (0.132). The adjusted R2 for this model represents a low amount of 5.9%, which indicates a modest model fit, meaning that the independent variables when taken as a group explain only 5.9% of the variance in the dependent variable earnings management. In other words, the amount of variance of earnings management that both intangibles and fair value at levels one and two account for is approximately 5.9%. Moreover, the model overall P-value also confirms the insignificance of the model since its value is greater than the selected level of significant ($\alpha = 5\%$).

Table 7 REGRESSION RESULTS - MODEL THREE				
Independent variables	**Dependent variable**	**T-Test**	**Sig.**	**β (beta)**
Fair value level one	Earning Management	-0.155	0.877	-0.018
Fair value level two		-0.181	0.857	-0.020
Intangible assets		0.045	0.965	0.005
Bank leverage		1.032	0.305	0.139
Book to market ratio		1.980	0.051	0.248
Size of bank		-1.750	0.084	-0.191
Return on assets		-0.134	0.894	-0.019
R	0.364			
R Square - R^2	0.132			
Adjusted R Square	0.059			
Durbin Watson	1.962			
F-Value	1.811			
P-Value	0.096			

Testing null hypothesis (3):

H₃: There is no statistically significant impact of intangible assets presented on the balance sheet on earnings management.

Referring to table 7, the P-values in the third model have confirmed the insignificance since all values are greater than the level of significance ($\alpha = 5\%$). As for the amounts of the beta coefficient for each variable (β), it shows that if one standard deviation decreases or increases in any of the independent variables, will lead the standard deviation in the predicted earnings management to change in a minor value. Thus, model three is found to be insignificant. Thereby, the third null hypothesis is also accepted providing evidence that intangible assets and both fair valued assets at both levels one and two have an insignificant impact on the earnings management in commercial banks listed on Amman stock exchange. This result may be attributed to the effectiveness of the measurement techniques of fair values and the fair presentation of the intangible assets with no deliberate misstatements. These results are consistent with the results of some previous studies (Jordan & Clark, 2015). As justified by (Jordan & Clark, 2015), earnings management are more likely to occur in firms that experienced multiple years of operating performance deterioration rather than other firms, therefore, the results of this study may be justified since the majority of the commercial banks under the study have experienced a normal operating performance in the period under the current study form 2012 till 2018.

CONCLUSIONS AND RECOMMENDATIONS

The purpose of the study is to examine the impact of intangible assets and fair value measurement on earning management. Content analysis of the financial reports of a sample of 13 commercial banks listed on Amman stock exchange with a 91 observation over seven years from 2012 till 2018 was used. An important motivation for conducting this study stems from the ongoing discussion involving earnings management and the possibility of exploiting the flexibility and levels of uncertainty involved in the valuation and measurement of intangible assets and fair value measurement in manipulating accounting numbers. The intangibles high flexibility and the levels of inputs used to determine the fair values create a high degree of uncertainty in their valuation which made it very attractive to managers for manipulating accounting numbers. However, the results of the study don't support the theoretical arguments about the effect of intangible assets and fair value measurement on earnings management, which may provide new evidence about this relationship and convey other massages, as summarized and discussed below:

The results of the study showed that there is an insignificant impact of the independent variables fair value measurement at both levels one and two on earning management, as the P-values were found greater than the selected level of significance 5%. The result may be attributed to the sound and solid controls followed by the banking industry which have led to improved corporate governance policies and procedures, advanced internal controls, transparent financial reporting systems, and banks' regulatory framework without eliminating the Central bank role. Worthwhile mentioning that the results of this study are inconsistent with (Sodan, 2019; Xu, 2019; Sodan, 2015) findings, which proved a positive relationship between earnings management and the fair value using a sample of 17 different Eastern European countries over ten years. The discrepancies in both results can be justified based on environmental variations including the study's sample size and population attributes. On the other hand, the current findings confirmed the conclusions of many prior studies. Firstly, Magnan et al. (2015) provided evidence of the informativeness of adopting fair value measurement through level 2 inputs, therefore, managers may convey useful information through the use of level two inputs, while some opportunistic actions may appear at

measuring level 3 inputs. Ayres (2017) results suggest that fair value at both levels one and two can enhance the quality of financial statements and improve analysts' forecasts, aligning with the current study findings confirming that fair value measurement does not negatively alter the earnings quality. Thereby, it can be concluded that fair value at both levels can be viewed as an informative tool that enhances the usefulness of the financial statements rather than as a tool for managers who may try to manage their earnings.

As for the intangible assets, the results also suggest that there is no impact of intangible assets on earnings management in the Jordanian commercial banking industry within the period from 2012 till 2018. Similar to fair value measurement, prior literature related to the relationship between earnings management and intangibles also has a mixed and contradictory results. For example, Jordan & Clark (2015) study revealed that firms record goodwill impairments in a way that provides relevant information for users of financial reports rather than to manage earnings opportunistically. The current study results support the findings obtained by Jordan & Clark (2004) who justified such results based on the performance of firms over time, in other words, earnings management are more likely to occur in firms that experienced multiple years of operating performance deterioration rather than other firms.

Finally, the role of corporate governance mechanisms used in the Jordanian commercial banking industry should be considered when interpreting the results of the study. Previous studies that investigated corporate governance mechanisms related to Jordanian banking industry revealed that there is a strong system of corporate governance (Al-Sheikh Qasem, 2021; Hamdan, 2021). This system helps in improving the quality of financial reporting and constraining the propensity of managers to engage in earnings management. Most importantly the governance system provides mechanisms that boost financial reporting quality through providing a more informative financial statements that truly represent the actual financial position and operating performance of the reporting entity.

Therefore, based on the research results and considering the required continuing development in the accounting standards, the researchers would recommend the commercial banking industry to encourage the application of all requirements of IFRS13: Fair value Measurement and IAS38: Intangible Assets, 2004. Moreover, there is a need for the continuous improvement in corporate governance mechanisms and internal controls in order to improve the entity's financial reporting process and enhance the quality of earnings,

Further studies may be undertaken to cover the impact of intangible assets and fair value measurement on earnings management in sectors other than the banking industry such as industrial or service sectors, whereby different results may be obtained in terms of the level of corporate governance under consideration. It may also be advised for future research to expand the study by comparing the results in terms of earnings management between the banking industry and other sectors.

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